TITLE: TWO NEW MEASURES FOR ASSESSING COMPLEXITY AS INTERRELATEDNESS

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ABSTRACT:

The study of complex systems has become more and more important and many attempts have been made to study such systems. In a previous paper, we developed a measure for assessing complexity as interrelatedness in Input-Output systems and applied it to a sample of relatively aggregated I-O tables of some OECD economies. However, the computation of this measure is very time demanding and becomes prohibitive for large I-O tables. In this paper we propose two new measures that are easy to apply and have not this computation burden, thus allowing us to measure complexity as interrelatedness of more disaggregated inter-industry relations. These measures are related to the trace and the degree of decomposability of a matrix. Again, an application will be made to a group of OECD countries and the results will be compared with our previous measure.